



NASA Policy Directive

NPD 8070.6B

Effective Date: May 07, 2003

Expiration Date: May 07, 2008

COMPLIANCE IS MANDATORY[Printable Format \(PDF\)](#)

Subject: Technical Standards

Responsible Office: Office of the Chief Engineer

1. POLICY

This NPD establishes NASA policy and organizational responsibilities for the development, management, and use of technical standards and associated products (specifications, guidelines, and handbooks) on NASA programs, projects, and functional activities. NASA policy is as follows:

- a. Use proven technical standards, as defined in OMB Circular A-119, on NASA programs, projects, and functional activities to provide an effective basis for defining requirements, evaluating proposed approaches, assessing resulting performance, and ensuring quality throughout the system life cycle.
- b. Encourage the use of common technical standards across NASA to promote excellence and consistency in practice, increase potential use of commercial items, reduce program/project costs, simplify interfaces, and improve interoperability in cooperative efforts.
- c. Prefer use of performance (outcome-based) standards in procurement activities over design or process (method-based) standards. Performance standards must, however, provide the level of detail required to ensure compatibility of form/fit/function and to meet needs for comparability of essential information, such as interfaces and test results.
- d. Select and tailor (i.e., adapt) and specify standards required to meet defined application needs to avoid overspecification or imposition of inappropriate requirements. Tailoring shall be documented to maintain traceability to the original standard, and the level of authority for approval of tailoring shall be appropriate to the level of application risk. For programs and projects, tailoring shall be done during the program implementation process described in NPR 7120.5.
- e. Ensure use of best practices in NASA activities through the following: selecting current versions of technical standards to establish requirements; reviewing lessons learned associated with selected standards; registering selected standards for notification of updates; periodically reviewing selected standards to assess the impact of revisions; and adopting current revisions except where impractical or incompatible with requirements.
- f. Support the development of, formally adopt, and use domestic and international voluntary consensus standards, as defined and required by Public Law 104-113 and by OMB Circular A-119, in preference to Government standards to accomplish NASA's mission wherever practical, technically appropriate, and consistent with laws and regulations. Use of voluntary consensus standards is not required where they would demonstrably fail to serve NASA's program needs.
- g. Establish and maintain NASA Technical Standards in those areas where standards available from other sources are not adequate to meet NASA's technical and management requirements.
- h. Review each NASA-developed Technical Standard at least once every 5 years to determine if it (i) is still needed, (ii) needs to be revised or updated, and (iii) can be replaced by a voluntary consensus standard. Standards that are no longer needed or can immediately be replaced by a voluntary consensus standard shall be cancelled.
- i. Evaluate NASA Technical Standards for potential conversion to voluntary consensus during the periodic review in section h. above and plan for replacement of those standards. Support conversion except where the need for the standard is unique to NASA.

2. APPLICABILITY

This NPD is applicable to NASA Headquarters and NASA Centers, including Component Facilities, in the

performance of Agency missions, programs, and projects, and to contractors to the extent specified in the contract(s).

3. AUTHORITY

- a. 15 U.S.C. 272(b), Section 12, "Standards Conformity" of "National Technology Transfer and Advancement Act of 1995."
- b. [OMB Circular A-119](#), "Federal Participation in the Development and Use of Voluntary Consensus Standards."

4. REFERENCES

[NPR 7120.5](#), NASA Program and Project Management Processes and Requirements.

5. RESPONSIBILITY

- a. The NASA Chief Engineer has the following responsibilities:

- (1) Establish policy, provide strategic direction, maintain oversight, and evaluate effectiveness of NASA standardization activities.
 - (2) Maintain an integrated NASA Technical Standards System to provide Agencywide access to standards and related information for use on NASA programs.
 - (3) Authorize development, documentation, development, distribution, and maintenance of NASA Technical Standards, and adoption of voluntary consensus standards.
 - (4) Assign responsibilities and delegate authorities for implementation of programs to support this policy.
 - (5) Serve as the designated NASA Standards Executive, as required by OMB Circular A-119, to provide for external coordination of NASA standards activities; to provide NASA representation on the Interagency Committee for Standards Policy; to be responsible for NASA implementation of OMB Circular A-119; and to provide a report on NASA standards activities to the OMB through the National Institute of Standards and Technology.
 - (6) Coordinate the implementation of standards policy and activities with NASA Headquarters Offices.
- b. Officials-in-Charge of Headquarters Offices have the following responsibilities:
- (1) Identify needs for development of NASA Technical Standards, and provide recommendations for the adoption of voluntary consensus standards to the NASA Chief Engineer.
 - (2) Develop, approve, and maintain required NASA Technical Standards in specific areas for which they have unique technical and/or assigned functional responsibility, providing approved standards to the Chief Engineer for inclusion in the integrated NASA Technical Standards System.
 - (3) Approve waivers to mandatory standards for which they are the responsible authority.
 - (4) Coordinate and report annually on standardization activities under their institutional jurisdiction to the Chief Engineer to support the required report to the Office of Management and Budget as referenced in paragraph 5.a.(5).

- c. NASA Centers, acting through their representatives to the Engineering Management Board, have the following responsibilities:

- (1) Identify NASA standardization needs for programs and projects and provide recommendations for the adoption of voluntary consensus standards to the Chief Engineer.
- (2) Support the development and review of NASA Technical Standards where there is relevant expertise, and provide for the maintenance and improvement of NASA Technical Standards for which they have assigned responsibility.
- (3) Encourage, support, and authorize the participation of employees in voluntary consensus-standards activities that are in furtherance of NASA's mission, and report annually to the Chief Engineer on standards activities as required for the consolidated annual NASA report fulfilling the requirements of OMB Circular A-119.

6. DELEGATION OF AUTHORITY

None

7. MEASUREMENTS

Performance metrics will be implemented to assess the effectiveness of standardization programs through measurement and evaluation of annual and trend values in the following areas:

- a. Implementation of the requirements of OMB Circular A-119, including support, adoption, and listing of voluntary consensus standards as NASA Preferred Technical Standards, as well as replacement of NASA standards with voluntary consensus standards.
- b. Effectiveness in meeting NASA needs for standards including use of and user satisfaction with the NASA Technical Standards System, establishment and maintenance of NASA Technical Standards unique to NASA, and consolidation of NASA Center standards into NASA Technical Standards.

8. CANCELLATION

NPD 8070.6, dated October 10, 1997.

/s/ Sean O'Keefe
Administrator

ATTACHMENT A: (TEXT)

None.

(URL for Graphic)

None.

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